

## Introduction

Command and control (C2) is an essential element of the art and science of warfare. No single specialized function, either by itself or combined with others, has a purpose without it. Commanders are responsible for C2. However, C2 is also of great concern to staff officers and some staff specialists.

Some understand C2 to be a distinct, specialized function—similar to logistics, intelligence, and information operations. C2 does have its own procedures, considerations, and vocabulary. It operates separately from other functions, yet in coordination with them. Through C2, commanders initiate and integrate all military functions and operations toward a common goal—mission accomplishment.

How one understands C2 depends on the perspective from which one approaches its study. Some study and discuss C2 as technological means and resources. Others see C2 as people only. Still others focus on C2 as an organization. Finally, C2 has been discussed as a set of procedures. In practice, however, C2 is a commander and a C2 system—a combination of people, organization, technological means and resources, and procedures.

Commanders have exercised C2 throughout history. They have performed many of the same C2 functions as long as warfare has existed. For example, Alexander the Great exercised C2 as long ago as 331 BC at the battle of Arbela.

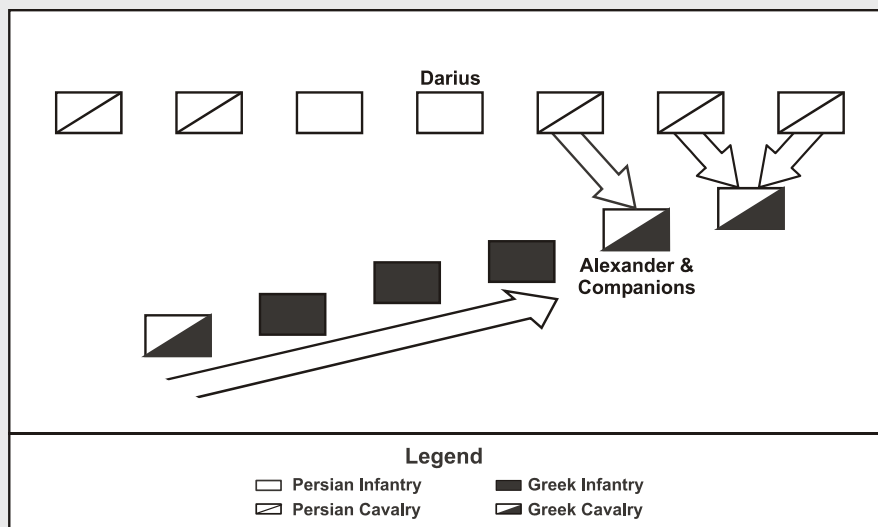
### The Battle Of Arbela (331 BC)

The Battle of Arbela (Gaugamela) occurred near the town of Erbil on the upper Euphrates in present-day Iraq. There, the Macedonian army of 40,000 infantry and 7,000 cavalry under Alexander the Great met a Persian army of at least 200,000 infantry and 45,000 cavalry under King Darius. Alexander's superior exercise of command and control allowed him to decisively defeat the larger force.

In *The Anabasis*, Arrian writes of Alexander the Great's generalship: "He was...most brilliant to seize the right course of action, even where all was obscure; and where all was clear, most happy in his conjectures of likelihood; most masterly in marshaling an army and in arming and equipping it; and in uplifting his soldiers' spirits and filling them with good hopes and brushing away anything fearful in dangers by his own want of fear... And all that had to be done in uncertainty he did with utmost daring; he was most skilled in swift anticipation and gripping of his enemy before anyone had time to fear the event..." These traits were clearly exhibited in his brilliant victory over the Persians and King Darius at the Battle of Arbela (Gaugamela).

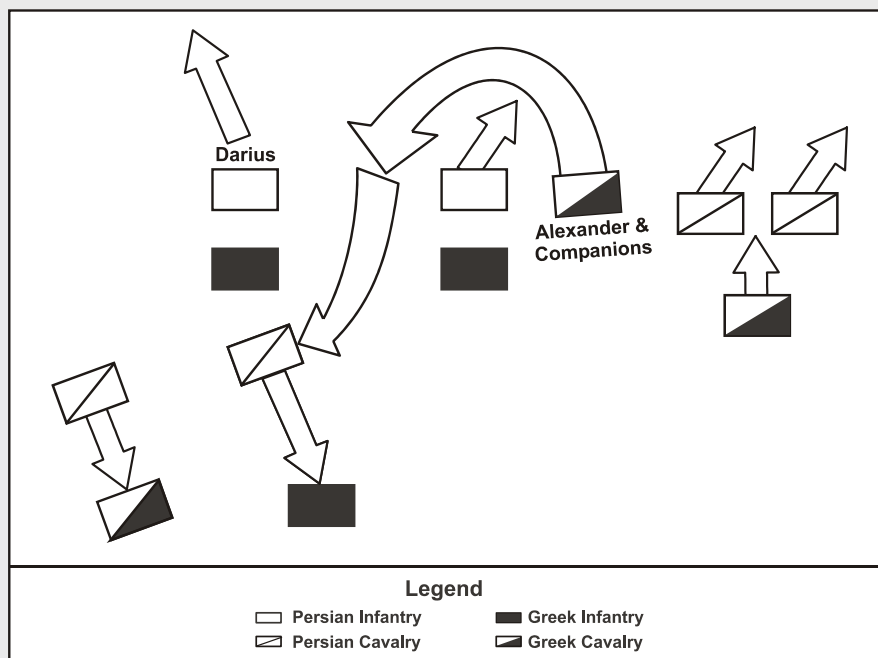
For four days before the battle, Alexander rested and fed his men. He slept soundly the night before the battle, instilling in his men confidence of victory, despite the Persians' outnumbering them by more than five to one. When the two armies lined up opposite each other on the plain near Gaugamela, the Persian lines extended well beyond Alexander's. Alexander assumed (rightly) that Darius

would try to outflank him. He responded by stationing his phalanx in the center and strongly supporting his flanks with deep formations turned at 45 degrees to prevent their encirclement. (See map Introduction-1.) Alexander's order of battle and the tactics emerging from it, arranged in accordance with his foresight into the enemy's intentions, was a major factor in gaining victory.



**Map Introduction-1. Arbela—Initial Action**

As the battle began, Alexander moved to his right, both to position his infantry opposite Darius' chariots and to reduce the Persian overlap of his flank. Darius attacked Alexander's right and, assuming that Alexander would be fully engaged



**Map Introduction-2. Arbela—Alexander's Attack**

there, ordered the entire Persian cavalry line to advance in two enveloping attacks. This maneuver, however, created a gap in the Persian front.

Demonstrating superb command instincts, Alexander immediately exploited the opportunity. He wheeled toward the gap and, making a wedge of the Companion Cavalry and part of the phalanx, personally led the charge. (See map Introduction-2 on page xi.) As Alexander closed in on the decisive point—Darius himself—Darius fled the field and the Persian center disintegrated.

Meanwhile, Alexander's advance created its own gap—in the Greek center. The Persian Guard and Indian Cavalry quickly penetrated there. Alexander turned the Companions immediately and led them across to the other side of the battle to aid the left flank—evidence of his extraordinary control. The Persian Guard was defeated. When the Persian force and their allies learned that Darius had fled, most of them quit the battlefield.

*Command and control*, as opposed to simply command, first entered Army terminology during World War II. Before then, the word *command* included those functions associated with control today. Since 1977, C2 has been considered one of the battlefield operating systems, which the Army uses to address the conduct (planning, preparation, execution, and assessment) of operations in discrete subsets. Until now, FM 3-0 and FM 5-0 (101-5) have addressed C2 doctrine principles. Other field manuals discussed C2 within the context of their subject. FM 7-15 lists the Army tactical tasks associated with the C2 battlefield operating system.

The term *command and control* is well known throughout the Army, but it is not well understood. The Army has struggled to find a definition that accurately portrays what a commander does in battle and in training. The Army has defined *command* as what a commander needs to do to get his force to accomplish the mission. As warfare has become more complex the concept of “command” has evolved into “command and control.” But trying to encompass all aspects of this concept in a single description lost the meaning of command and consideration of the art of command. Nevertheless, the term is well established in current and emerging joint doctrine. Army doctrine follows joint doctrine, and Army forces operating as part of a joint force follow joint doctrine; however, the nature of land combat operations has special and specific requirements for C2 that Army C2 doctrine must address.

FM 6-0 gathers the scattered parts of C2 doctrine discussed in multiple sources, such as branch and echelon field manuals, into one field manual that goes beyond them in detail. It provides a common guide for schools and centers in writing C2 doctrine in branch and echelon manuals for which they are proponents. It uses the term *command and control* to identify what commanders do and how they execute the task of leading their units to accomplish missions. Army values and leadership attributes, skills, and actions are vital to exercising C2; however, FM 6-0 goes beyond the discussion of leadership in FM 22-100. Commanders use C2 to plan, prepare for, and execute the other tactical tasks, synchronize functions among them, and continually assess the situation or execution of operations. Without C2, the other tactical tasks cannot commence or be synchronized with one another. FM 6-0 also discusses the C2 system's impact on prioritizing

resources. The most important resource in any army is its people, who must be organized to undertake and complete military activities.

Chapter 1 introduces and discusses the nature, environment, and concept of command and control. It addresses how “command” is related to “control,” and how the environment affects the exercise of C2. It establishes mission command as the Army’s preferred concept of C2. While FM 6-0 discusses the components of C2—command and control—separately, it emphasizes that exercising C2 is not a phased application of each but a single, continuous application of both. FM 6-0 addresses them separately for analysis only.

The principal aspect of command and control is *command*. Chapter 2 discusses the nature of command and the art of command. Only a properly designated commander may exercise C2; therefore, commanders are the focus of authority for effective C2. They focus their individual C2 systems to support their conduct of military operations. Each commander’s practice of C2 reflects an underlying philosophy and style. The tactics, techniques, and procedures associated with C2 in offensive and defensive operations also apply to stability operations and support operations. They apply to all Army organizations in both peace and war. Army C2 doctrine emphasizes the importance of personal command and a strong C2 concept linked to a supporting C2 system and oriented on Army operations doctrine.

The aspect of *control* has always been inherent in the practice of command. At the battle of Arbela, Alexander’s use of visual observation, assessment of the meaning of the gap, and direction of his cavalry force to exploit opportunity against the critical weakness in the Persian army illustrate the concept and role of control in C2. Other doctrinal publications have addressed the concept of control their discussions of C2, but those discussions have been inconsistent with one another. FM 6-0 establishes a single definition and concept of control within the overall concept of C2 for the entire Army.

Chapter 3 discusses the nature of control and the science of control. The requirement for control is created by the impediments to mission accomplishment that Clausewitz identified as fog and friction. Singly or in combination, these impediments act against the force before, during, and after operations. Fog and friction always exist because uncertainty—about both enemy and friendly forces—cannot be removed from battle. They often cause the execution of operations to deviate from the commander’s intent. Control identifies and counters their effects by alerting commanders to adjust their resources, concept of operations, or objectives. Control also alerts commanders to opportunities to exploit success.

Chapter 4 discusses the role of commanders in C2. Commanders are the key to C2. Their knowledge, experience, and personality—along with how they interact with their units—define command. Commanders must decide what to do, using the decisionmaking technique best for the circumstances, and lead their units to accomplish the mission. Foremost among the commander’s roles is combining the art of command and the science of control. Central to their success in this is the process of commander’s visualization. Commanders drive C2. Under mission command, however, commanders emphasize influencing actions rather than detailed directions or directives. They normally issue broad guidance and use close personal supervision to intervene in subordinates’ actions only in exceptional

cases. They establish a positive command climate for the unit, train subordinates in C2, and use battle command to direct operations.

Chapter 5 addresses the command and control system. All commanders must devote, acquire, or receive the resources needed to create a C2 system that performs the functions needed to exercise C2. At every level of command, the commander's C2 system supports effective exercise of C2. The term "system" is deceptive. It does not solely mean an arrangement of equipment, like a communications system. Rather, it is an organization of all resources used to support the commander's exercise of C2. The art exercised by commanders with respect to the C2 system lies in their expert integration of all C2 system elements to best serve their needs in pursuit of mission accomplishment. Commanders combine the elements of their individual C2 systems into a cohesive whole so that C2 resources are not wasted.

Chapter 6 establishes doctrine for exercising C2. Commanders exercise C2 by placing their individual C2 systems into action. Exercising C2 is a dynamic process that occurs throughout the operations process—assessing, planning, preparing for, and executing military operations. While these activities are cyclical and continuous, they do not necessarily occur sequentially. All units in operations perform varying levels of planning, preparing, and executing; assessing takes place throughout the other three activities and provides feedback for decision-making.